CLAIMS:

1. A signal processing method utilizing a partial response to record information on a medium and then regenerate the information from the medium, wherein

a regeneration signal from the medium is subjected to an equalizing process including the convolution of

(k-s·D)

where D: one (1) bit delay operator, and

k, s: positive integer, $k \neq s$.

2. The signal processing method according to claim 1, wherein the information is decoded from the equalized signal by use of maximum-likelihood detection.

3. A signal processing circuit utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein

the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of

(k-s·D)

where D: one (1) bit delay operator, and
k, s: positive integer, $k \neq s$.

4. The signal processing circuit according to claim 3, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

5. A signal recording/regenerating apparatus utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein
the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of
(k-s·D)
where D: one (1) bit delay operator, and
k, s: positive integer, $k \neq s$.

6. The signal recording/regenerating apparatus according to claim 5, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

7. A signal processing method utilizing a partial response to record information on a medium and then regenerate the information from the medium, wherein

a record signal recorded on the medium is subjected to the convolution of

$(1-D)$

where D: one (1) bit delay operator, and wherein

a regeneration signal from the medium is subjected to an equalizing process including the convolution of

$(k-s\cdot D)\cdot(1+D)^n$

where D: one (1) bit delay operator,

k, s: positive integer, and

n: positive integer, except 2.

8. The signal processing method according to claim 7, wherein the information is decoded from the equalized signal by use of maximum-likelihood detection.

9. A signal processing circuit utilizing a partial response to record information on a medium through a recording system and regenerate the information from the m dium through a regenerating system, wherein

the recording system includes a circuit unit subjecting a record signal recorded on the medium to the convolution of

$(1-D)$

where D: one (1) bit delay operator,

and wherein

the regenerating system includes an equalizer subjecting an output signal from the medium to the convolution of

$(k-s\cdot D)\cdot(1+D)^n$

where D: one (1) bit delay operator,

k, s: positive integer, and

n: positive integer, except 2.

10. The signal processing circuit according to claim 9, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.

11. A signal recording/regenerating apparatus utilizing a partial response to record information on a medium through a recording system and regenerate the information from the medium through a regenerating system, wherein

the recording system includes a circuit unit subjecting a record signal record d on the medium

to convolution of

$(1-D)$

where D: one (1) bit delay operator, and wherein the regenerating system includes an equalizer subjecting a regeneration signal from the medium to the convolution of

$(k-s\cdot D)\cdot(1+D)^n$,

where D: one (1) bit delay operator,

k, s: positive integer, and

n: positive integer, except 2.

12. The signal recording/regenerating apparatus according to claim 11, wherein it comprises a maximum-likelihood detector which decodes the information from an output signal of the equalizer by use of maximum-likelihood detection.